

Serial No. 10/728,801
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (canceled)
2. (canceled)
3. (canceled)
4. (previously presented) A photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is a polysiloxazane having a number average molecular weight of 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, an alkylamino group or an alkylsilyl group, and wherein
said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester.
5. (previously presented) A photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is

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a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or

a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II),



wherein R⁴ and R⁵ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, and wherein said photoacid generator is a peroxide.

6. (original) The photosensitive polysilazane composition according to claim 5 wherein said peroxide is selected from t-butyl peroxybenzoate, 3,3',4,4'-tetra(t-butylperoxycarbonyl)benzophenone or α,α' -bis(t-butylperoxy)diisopropylbenzene.

7. (canceled)

8. (previously presented) A photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is

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a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or

a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II).



wherein R⁴ and R⁵ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, wherein

said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester; and wherein

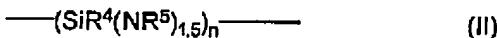
said composition further contains a sensitizing dye [[is]] selected from coumarin, ketocoumarin and their derivatives and thiopyrylium salts.

9. (previously presented) A photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is

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a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or

a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II),



wherein R⁴ and R⁵ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, wherein

said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester, and wherein

said composition further contains an oxidation catalyst.

10. (original) The photosensitive polysilazane composition according to claim 9 wherein said oxidation catalyst is palladium propionate.

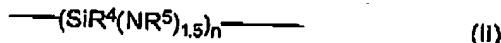
11. (previously presented) A method of forming a patterned insulating film comprising: a step in which a coated film is formed of a photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, a step in

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which said coated film is exposed to light in a pattern, a step in which the exposed portion of said coated film is dissolved off, and a step in which the patterned polysilazane film formed as a result of said dissolving off is allowed to stand in an ambient atmosphere or baked to convert it to a silica-based ceramic coating, wherein said polysilazane or its modification is

a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or

a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II),



wherein R⁴ and R⁵ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, and wherein said photoacid generator is a peroxide.

12. (original) The method according to claim 11, wherein said polysilazane is a polysilazane having a number average molecular weight of 100 to 100,000 that mainly contains the skeleton represented by general formula (II).

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13. (original) The method according to claim 12, wherein in general formula (II), R⁴ is a methyl group or phenyl group, and R⁵ is a hydrogen atom.

14. (previously presented) A method of forming a patterned insulating film comprising: a step in which a coated film is formed of a photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, a step in which said coated film is exposed to light in a pattern, a step in which the exposed portion of said coated film is dissolved off, and a step in which the patterned polysilazane film formed as a result of said dissolving off is allowed to stand in an ambient atmosphere or baked to convert it to a silica-based ceramic coating, wherein said polysilazane or its modification is

a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, -(RSi(NR⁶)_{1.5})-, -(RSi(NR⁶)O_{0.5})-, -(RSi(NR⁶)_{0.5}O)-, -(RSiO_{1.5})- or -(SiO₂)-, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, and wherein

said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester.

15. (original) The method according to claim 11, wherein said peroxide is selected from t-butyl peroxybenzoate, 3,3',4,4'-tetra(t-butylperoxycarbonyl)benzophenone or α,α'-bis(t-butylperoxy)diisopropylbenzene.

16. (canceled)

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17. (previously presented) A method of forming a patterned insulating film comprising: a step in which a coated film is formed of a photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, a step in which said coated film is exposed to light in a pattern, a step in which the exposed portion of said coated film is dissolved off, and a step in which the patterned polysilazane film formed as a result of said dissolving off is allowed to stand in an ambient atmosphere or baked to convert it to a silica-based ceramic coating, wherein said polysilazane or its modification is

a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or

a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II),



wherein R⁴ and R⁵ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, wherein

said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester, and wherein

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said photosensitive polysilazane composition further contains a sensitizing dye selected from coumarin, ketocoumarin and their derivatives and thiopyrylium salts.

18. (previously presented) A method of forming a patterned insulating film comprising: a step in which a coated film is formed of a photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, a step in which said coated film is exposed to light in a pattern, a step in which the exposed portion of said coated film is dissolved off, and a step in which the patterned polysilazane film formed as a result of said dissolving off is allowed to stand in an ambient atmosphere or baked to convert it to a silica-based ceramic coating, wherein said polysilazane or its modification is

a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, $-(RSi(NR^6)_{1.5})-$, $-(RSi(NR^6)O_{0.5})-$, $-(RSi(NR^6)_{0.5}O)-$, $-(RSiO_{1.5})-$ or $-(SiO_2)-$, wherein R and R⁶ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or

a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II),



wherein R⁴ and R⁵ respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, wherein

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said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester, and wherein

said photosensitive polysilazane composition further contains an oxidation catalyst.

19. (original) The method according to claim 18, wherein said oxidation catalyst is palladium propionate.